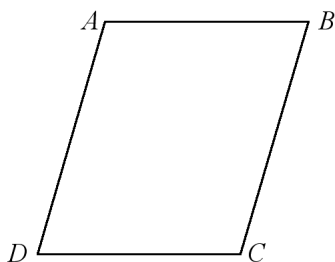


Name: _____

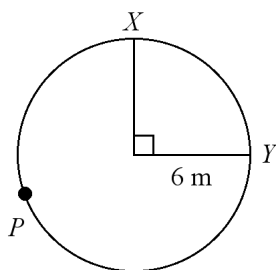
ACE Geometry

Practice Final #3

- _____ 1. $ABCD$ is a parallelogram. If $m\angle DAB = 113$, then $m\angle BCD = \underline{\hspace{1cm}}$. The diagram is not to scale.



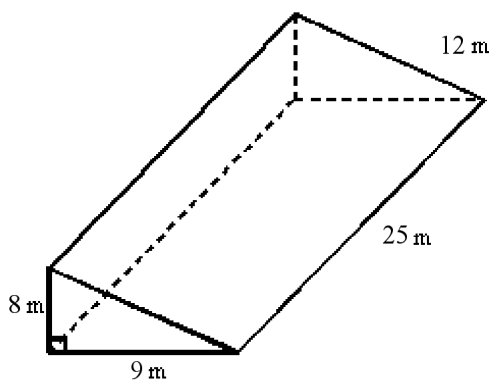
- a. 67 b. 123 c. 77 d. 113
- _____ 2. Find the length of arc XPY . Leave your answer in terms of π .



- a. 3π m b. 9π m c. 18π m d. 540π m

Use formulas to find the lateral area and surface area of the given prism. Show your answer to the nearest whole number.

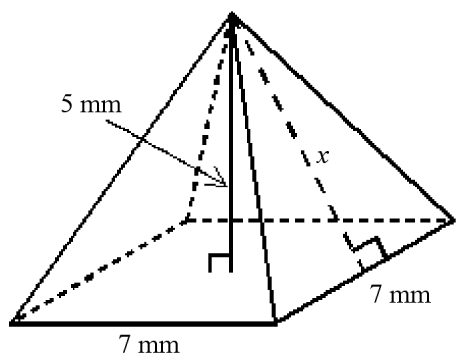
- _____ 3.



Not drawn to scale

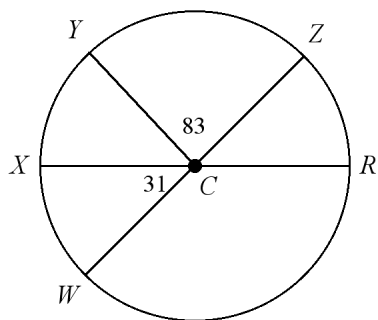
- | | |
|--|--|
| a. 700 m^2 ; 797 m^2 | c. 725 m^2 ; 797 m^2 |
| b. 725 m^2 ; 761 m^2 | d. 700 m^2 ; 869 m^2 |

- _____ 4. Find the slant height x of the pyramid shown to the nearest tenth.



Not drawn to scale

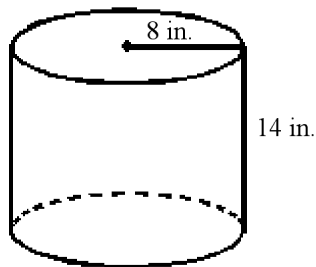
- _____ 5. \overline{WZ} and \overline{XR} are diameters. Find the measure of arc ZWX . (The figure is not drawn to scale.)



- a. 66 b. 263 c. 294 d. 211

Find the volume of the cylinder in terms of π .

- _____ 6.

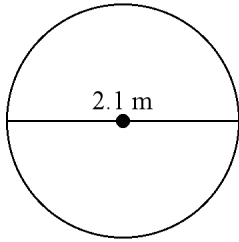


Not drawn to scale

- a. $448\pi \text{ in.}^3$ b. $224\pi \text{ in.}^3$ c. $896\pi \text{ in.}^3$ d. $112\pi \text{ in.}^3$

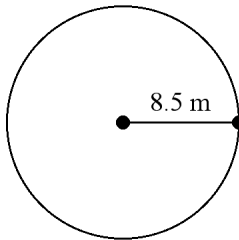
Find the area of the circle. Leave your answer in terms of π .

_____ 7.



- a. $2.205\pi \text{ m}^2$ b. $7.2\pi \text{ m}^2$ c. $4.41\pi \text{ m}^2$ d. $1.1025\pi \text{ m}^2$

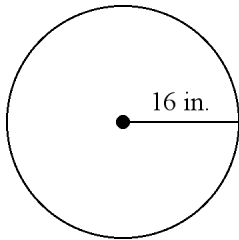
_____ 8.



- a. $144.5\pi \text{ m}^2$ b. $614.13\pi \text{ m}^2$ c. $4.25\pi \text{ m}^2$ d. $72.25\pi \text{ m}^2$

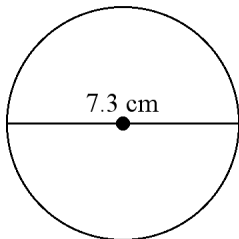
Find the circumference. Leave your answer in terms of π .

_____ 9.



- a. $32\pi \text{ in.}$ b. $16\pi \text{ in.}$ c. $48\pi \text{ in.}$ d. $256\pi \text{ in.}$

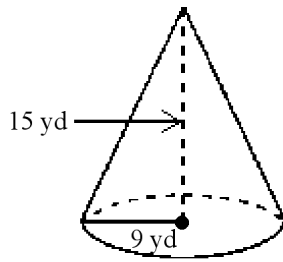
_____ 10.



- a. $3.65\pi \text{ cm}$ b. $7.3\pi \text{ cm}$ c. $14.6\pi \text{ cm}$ d. $10.95\pi \text{ cm}$

Find the volume of the cone shown as a decimal rounded to the nearest tenth.

_____ 11.

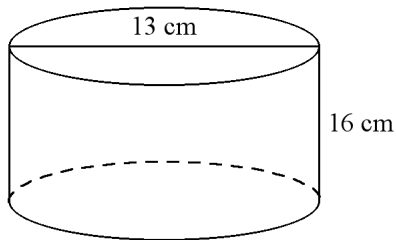


Not drawn to scale

- a. 2120.6 yd^3 b. 1908.5 yd^3 c. 141.4 yd^3 d. 1272.3 yd^3

Find the surface area of the cylinder in terms of π .

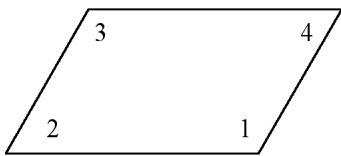
_____ 12.



Not drawn to scale

- a. $754\pi \text{ cm}^2$ b. $546\pi \text{ cm}^2$ c. $292.5\pi \text{ cm}^2$ d. 500.5 cm^2

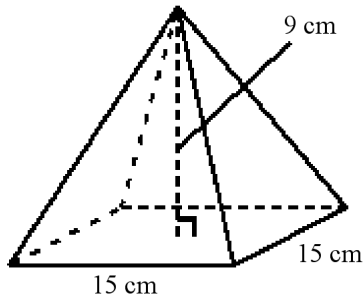
_____ 13. For the parallelogram, if $m\angle 2 = 4x - 29$ and $m\angle 4 = 3x - 10$, find $m\angle 3$. The diagram is not to scale.



- a. 47 b. 19 c. 133 d. 143

Find the volume of the square pyramid shown. Round to the nearest tenth as necessary.

_____ 14.

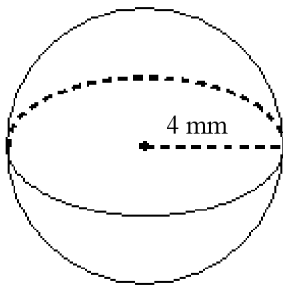


Not drawn to scale

- a. 228 cm^3 b. 45 cm^3 c. 1012.5 cm^3 d. 675 cm^3

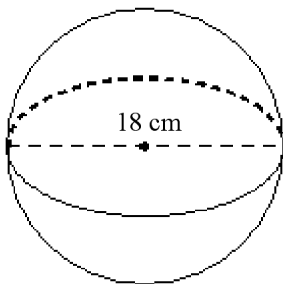
Find the volume of the sphere shown. Give each answer rounded to the nearest cubic unit.

_____ 15.



- a. 134 mm^3 b. 201 mm^3 c. 268 mm^3 d. 67 mm^3

_____ 16.



- a. $3,054 \text{ cm}^3$ b. 763 cm^3 c. $24,429 \text{ cm}^3$ d. 339 cm^3

_____ 17. Which statement is the Law of Syllogism?

- a. If $p \rightarrow q$ is a true statement and q is true, then p is true.
 b. if $p \rightarrow q$ and $q \rightarrow r$ are true statements, then $p \rightarrow r$ is a true statement.
 c. If $p \rightarrow q$ is a true statement and p is true, then q is true.
 d. If $p \rightarrow q$ and $q \rightarrow r$ are true statements, then $r \rightarrow p$ is a true statement.

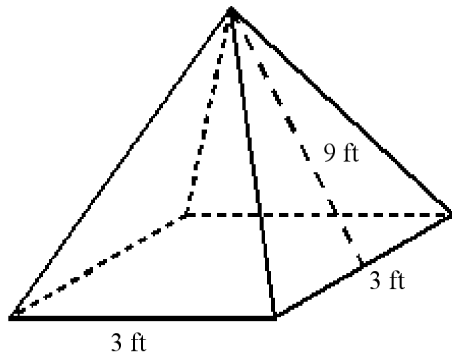
Find the surface area of the sphere with the given dimension. Leave your answer in terms of π .

_____ 18. radius of 60 m

- a. $7,200\pi \text{ m}^2$ b. $1,800\pi \text{ m}^2$ c. $3,600\pi \text{ m}^2$ d. $14,400\pi \text{ m}^2$

Find the surface area of the pyramid shown to the nearest whole number.

_____ 19.

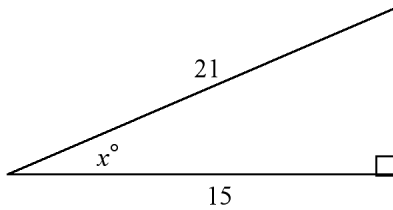


Not drawn to scale

- a. 117 ft^2 b. 20 ft^2 c. 54 ft^2 d. 63 ft^2

Find the value of x . Round to the nearest degree.

_____ 20.



Not drawn to scale

- a. 49 b. 44 c. 36 d. 46

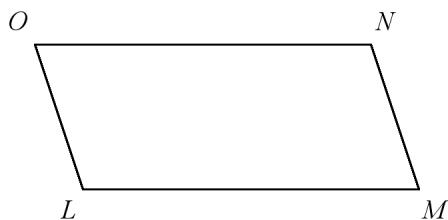
_____ 21. Use the Law of Detachment to draw a conclusion from the two given statements.

If two angles are complementary, then the sum of their measures is 90° .

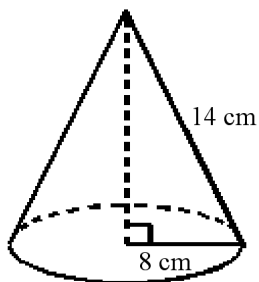
$\angle P$ and $\angle Q$ are complementary.

- a. $m\angle P + m\angle Q = 180$ c. $m\angle P + m\angle Q = 90$
 b. $m\angle P \neq m\angle Q$ d. $\angle P$ is congruent to $\angle Q$.

- _____ 22. $LMNO$ is a parallelogram. If $NM = x + 27$ and $OL = 4x + 9$ find the value of x and then find NM and OL .

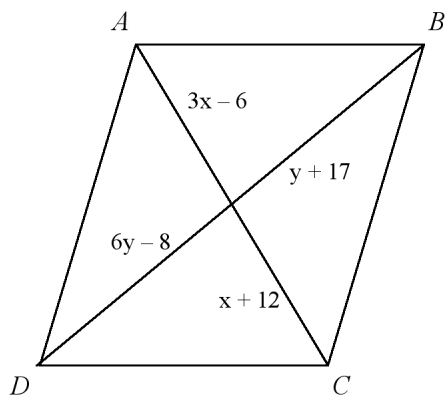


- a. $x = 8, NM = 35, OL = 35$ c. $x = 6, NM = 33, OL = 33$
 b. $x = 8, NM = 33, OL = 35$ d. $x = 6, NM = 35, OL = 33$
- _____ 23. Find the surface area of the cone in terms of π .



Not drawn to scale

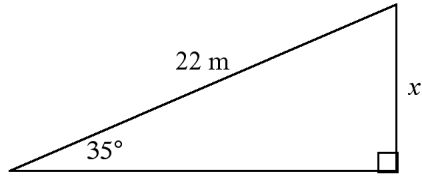
- a. $288\pi \text{ cm}^2$ b. $128\pi \text{ cm}^2$ c. 144 cm^2 d. $176\pi \text{ cm}^2$
- _____ 24. Find values of x and y for which $ABCD$ must be a parallelogram. The diagram is not to scale.



- a. $x = 9, y = 21$ b. $x = 9, y = 22$ c. $x = 5, y = 9$ d. $x = 9, y = 5$
- _____ 25. Identify the hypothesis and conclusion of this conditional statement:
 If tomorrow is Thursday, then yesterday was Tuesday.
- a. Hypothesis: Tomorrow is Thursday. Conclusion: Yesterday was Tuesday.
 b. Hypothesis: Tomorrow is Thursday. Conclusion: Yesterday was not Tuesday.
 c. Hypothesis: Yesterday was not Tuesday. Conclusion: Tomorrow is Thursday.
 d. Hypothesis: Yesterday was Tuesday. Conclusion: Tomorrow is Thursday.

Find the value of x . Round the length to the nearest tenth.

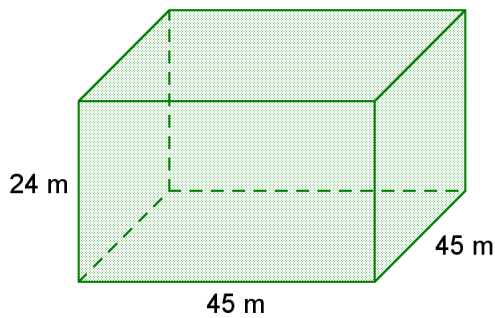
_____ 26.



Not drawn to scale

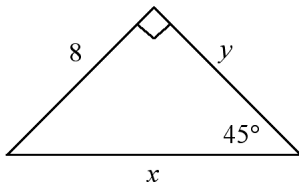
- a. 38.4 m b. 12.6 m c. 18 m d. 15.4 m

_____ 27. A rectangular prism has a square base measuring 45 meters on each side and a height of 24 meters. If a plane is allowed to intersect the prism in any orientation, what is the largest possible area, in square meters, of the cross-section?



- a. 1,080 square meters c. 2,639 square meters
b. 2,025 square meters d. 2,295 square meters

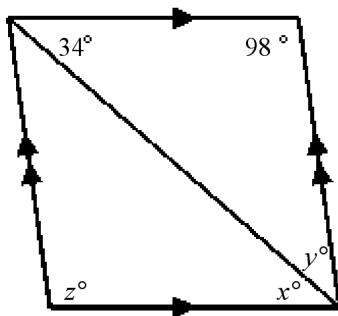
_____ 28. Find the lengths of the missing sides in the triangle. Write your answers as integers or as decimals rounded to the nearest tenth.



Not drawn to scale

- a. $x = 8, y = 11.3$ b. $x = 11.3, y = 8$ c. $x = 5.7, y = 6.9$ d. $x = 6.9, y = 5.7$

____ 29. Find the values of the variables in the parallelogram. The diagram is not to scale.



a. $x = 48, y = 48, z = 132$

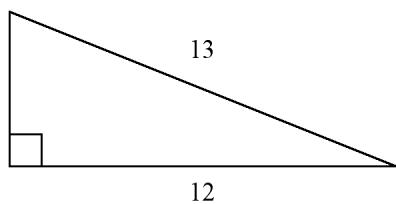
c. $x = 48, y = 34, z = 98$

b. $x = 34, y = 48, z = 98$

d. $x = 34, y = 48, z = 132$

Find the length of the missing side. The triangle is not drawn to scale.

____ 30.



a. 5

b. 18

c. 2

d. 25

____ 31. What is the converse of the following conditional?

If a point is in the first quadrant, then its coordinates are positive.

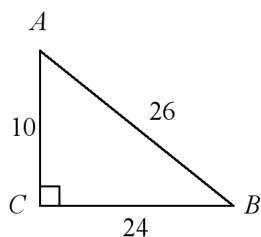
a. If the coordinates of a point are not positive, then the point is not in the first quadrant.

b. If the coordinates of a point are positive, then the point is in the first quadrant.

c. If a point is not in the first quadrant, then the coordinates of the point are not positive.

d. If a point is in the first quadrant, then its coordinates are positive.

_____ 32. Write the ratios for $\sin A$ and $\cos A$.



Not drawn to scale

a. $\sin A = \frac{24}{26}$, $\cos A = \frac{10}{24}$

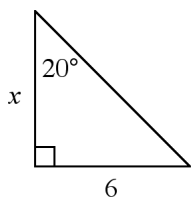
c. $\sin A = \frac{10}{26}$, $\cos A = \frac{24}{26}$

b. $\sin A = \frac{24}{10}$, $\cos A = \frac{10}{26}$

d. $\sin A = \frac{24}{26}$, $\cos A = \frac{10}{26}$

Find the value of x . Round your answer to the nearest tenth.

_____ 33.



Not drawn to scale

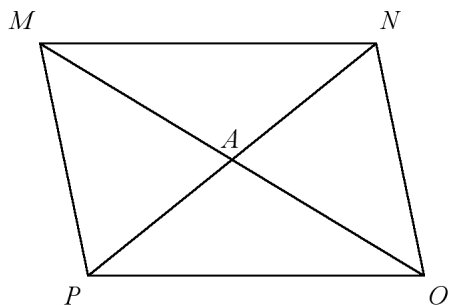
a. 16.5

b. 5.6

c. 2.1

d. 2.2

_____ 34. Find AM in the parallelogram if $PN=15$ and $AO=3$. The diagram is not to scale.



a. 15

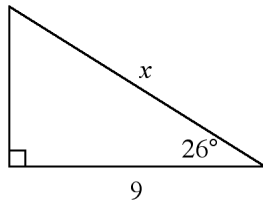
b. 7.5

c. 6

d. 3

Find the value of x . Round to the nearest tenth.

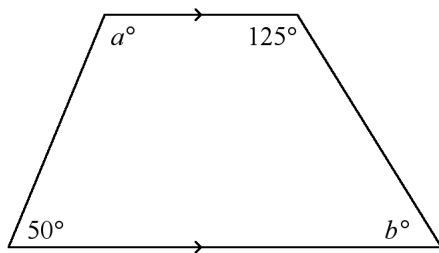
_____ 35.



Not drawn to scale

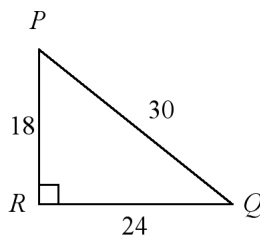
- a. 8.1 b. 10.1 c. 8.2 d. 10

_____ 36. Find the values of a and b . The diagram is not to scale.



- a. $a = 130, b = 50$ c. $a = 125, b = 50$
 b. $a = 125, b = 55$ d. $a = 130, b = 55$

_____ 37. Write the tangent ratios for $\angle P$ and $\angle Q$.



Not drawn to scale

- a. $\tan P = \frac{18}{24}; \tan Q = \frac{24}{18}$ c. $\tan P = \frac{30}{18}; \tan Q = \frac{18}{30}$
 b. $\tan P = \frac{24}{18}; \tan Q = \frac{18}{24}$ d. $\tan P = \frac{30}{24}; \tan Q = \frac{24}{30}$

Fill in each missing reason.

_____ 38. **Given:** $11x - 7y = -1; x = 3$

Prove: $\frac{34}{7} = y$

$11x - 7y = -1; x = 3$ a. _____

$33 - 7y = -1$ b. _____

$-7y = -34$ c. _____

$y = \frac{34}{7}$ d. _____

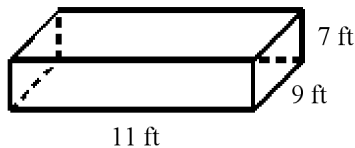
$\frac{34}{7} = y$ e. _____

- a. a. Given
b. Substitution Property
c. Subtraction Property of Equality
d. Division Property of Equality
e. Reflexive Property of Equality
- b. a. Given
b. Substitution Property
c. Subtraction Property of Equality
d. Division Property of Equality
e. Symmetric Property of Equality

- c. a. Given
b. Substitution Property
c. Subtraction Property of Equality
d. Addition Property of Equality
e. Symmetric Property of Equality
- d. a. Given
b. Symmetric Property of Equality
c. Subtraction Property of Equality
d. Division Property of Equality
e. Reflexive Property of Equality

Find the volume of the given prism. Round to the nearest tenth if necessary.

_____ 39.



Not drawn to scale

- a. 684 ft^3 b. 478 ft^3 c. 700 ft^3 d. 693 ft^3

_____ 40. Use the Law of Syllogism to draw a conclusion from the two given statements.

If you exercise regularly, you have a healthy body.

If you have a healthy body, you have more energy.

- a. If you do not have more energy, you do not exercise regularly.
b. If exercise regularly, you have more energy.
c. You have more energy.
d. You have a healthy body.

**ACE Geometry
Answer Section****Practice Final #3**

1. D
2. B
3. C
4. D
5. D
6. C
7. D
8. D
9. A
10. B
11. D
12. C
13. C
14. D
15. C
16. A
17. B
18. D
19. D
20. B
21. C
22. C
23. D
24. D
25. A
26. B
27. D
28. B
29. B
30. A
31. B
32. D
33. A
34. D
35. D
36. D
37. B
38. B
39. D
40. B